Professor Cockerell's paper on Mexican Coccidæ, in 1893 (Ann. & Mag. Nat. Hist. Ser. 6, Vol. XII, pp. 47–53), brought the list of species and varieties then known up to 30, his paper having added 12 species. The early additions to the list are shown in the following table adapted from Cockerell:

Species known from Mexico before Signoret's time, . . .	3
" added by Signoret (1873–75), ...	2
" " Comstock (1882–83), ...	3
" " Riley and Howard (1890)	2
" found by Dugés (up to 1893)	8
Total up to 1893, ...	18

In 1893, Cockerell found, on a trip through Mexico, 12 additional species, bringing the list up to 30. Since then the number has been increased by the writer, who found 19 additional species in 1894; 8 further additional in 1895; and 16 still further additional in 1896. In addition to these, Mr. Alexander Craw has found, up to 1897, in the course of his horticultural quarantine work at San Francisco, 7 more species, thus bringing the total up to 80 in all with the close of the year 1896. Therefore, in three years (1894, 1895 and 1896) the list of Mexican Coccidæ has been increased 50 species, and that during only a few weeks each year, probably not exceeding three months altogether, during which time much other work was also attended to. This indicates the surprising results to be obtained in collecting and investigating scale-insects in Mexico, Central America, and the West Indies, as well as South America, which is still less known in this respect. The writer is at present engaged in collecting further material in Mexico, and has a considerable number of species already which are doubtless additional to this list, but it will be some time before they can be worked up.

NEW SAWFLIES (TENTHREDININÆ) WITH DESCRIPTIONS OF LARVÆ.

BY HARRISON G. DYAR, PH.D.

Siobla excavata *Norton.*

Antennæ short and thick, a little thickened before apex; posterior tibiæ not reaching apex of abdomen; eyes reaching almost to base of mandibles; labrum round, pointed; lanceolate cell with oblique cross

nervure; under wing with one middle cell or none. Black, coarsely granular and with a fine golden yellow pubescence. Head black, clypeus and labrum bright yellow, two basal joints of antennæ orange yellow, palpi pale. Thorax black, posterior edges of prothorax, cenchri, trochanters, basal two thirds of all tibiæ and apex of anterior femora yellow; tegulæ orange yellow; apex of tibiæ and tarsi light brown. Abdomen black, basal plates yellow, first segment brown centrally, each segment with a narrow posterior yellow line, the terminal segment half yellow; venter black. Wings faintly yellowish smoky, veins black, costa and stigma brown, the latter yellow at base; a black dot in the second submarginal cell. Length of male 10 mm., female 11 mm. *S. robusta* Kirby seems to be the same species. Larva characterized Can. Ent., XXVII, 339 as "5c."

Stage I.—Head .35 mm., brown-black, shiny; skin dark.

Stage II.—Head .53 mm., black, slightly pruinose. Body dull gray, scarcely darker dorsally except from the food showing by transparency; thoracic feet black; subventral region white; no spots.

Stage IV.—Head .9 mm., dark gray, body pruinose gray, brighter subventrally, annulate. No marks. Length 10 mm.

Stage V.—Head black except around the mouth, covered with white bloom; width 1.3 mm. Dorsal area faintly grayish, lateral black spots distinct, two on each segment; a series of small black spots subventrally along the bases of the feet, three on each segment. Subventral region yellowish, black points present; a white bloom.

Stage VI.—Head black, pale around the mouth; width 1.6 mm. Body as in the mature larva but the gray less evident, marks all smaller and fainter. A thick white bloom gradually appears.

Stage VII.—Head shining black with a faint white bloom; antennæ short, pointed; width 2.0 to 2.2 mm. Thoracic feet large, slender, divergent, abdominal ones small, present on joints 6 to 13. Segments 6-annulate with minute black points on the second and fourth annulets, a few others on the third annulet, stigmatal and subventral folds. Body pruinose leaden gray, a thin white bloom on a sordid greenish leaden ground; a series of diffuse, quadrate, black patches laterally, two on each segment between annulets 1–2 and 4–5. Upper subventral fold faintly yellowish, obscured by the bloom; lower fold black, forming a nearly continuous band. Subventral region white; feet and venter whitish; thoracic feet largely black. Solitary feeders, do not curl.

Stage VIII. (ultimate)—Head leaden black, but over the clypeus and below antennæ whitish; width 2.2 mm. Body annulate, shining, leaden

black throughout, no bloom; a series of large lateral patches, one on a segment, on joints 2 and 5–12 covering the spiracles, creamy yellow. These patches are as broad as the width of annulet 2 and posterior half of annulet 1. Thoracic feet leaden, clear at the joints; abdominal feet clear at tip. On attaining this stage the larvæ enter the earth.

Found commonly on the button bush (*Cephalanthus occidentalis*) around New York City early in June, a large and striking larva, often completely defoliating the plants of their young leaves. They all disappear by the middle of June and the flies do not appear till the following spring.

Macrophya trisyllaba *Say.*

Found by Mrs. Slosson at Franconia N. H., feeding on the elder (*Sambucus racemosa*).

Upper half of head black, lower white. Body segments 7-annulate with distinct white points on the second and fourth annulets. Dorsum to the spiracles black, mottled with sordid white principally in a festooned narrow subdorsal line and straight dorsal one. Below the spiracular line whitish with several small black spots on each segment and one on the base of the foot. Anal plate black. Thoracic feet pale with a mark at the base; abdominal feet on joints 6 to 13.

Ultimate stage.—Smooth, without points, shining waxy, the black coloration as before but paler, dotted with whitish and the creases of the annulets pale, hence the general appearance is paler than before. Head pale, eye black; a dusky shade over the vertex. The larvæ enter the ground to hibernate.

Mrs. Slosson sent me a few of these larvæ in September; the fly emerged the following spring:

Tenthredo atroviolacea *Norton*, var. **peratra**, var. nov.

Agreeing exactly with the description of *Tenthredopsis atroviolacea*, Norton, except that there is no white spot on the posterior coxæ and the third joint of antennæ is one and one-half times as long as the fourth. This is doubtless a variety of *T. atroviolacea*. The fly is entirely black, head, thorax and legs dull with large punctures, wings rather opaque violaceous, the venation of the posteriors as described for the male of *T. atroviolacea*. One male, bred from larva.

The larva is a very curious one. For a Tenthridinid remarkably specialized, having reached the stage of some Noctuid Lepidoptera (*e. g.*, *Pseudoglossa lubricalis* or *Cucullia artemisiæ*).

Looks a little flattened, but thick and robust. Feet on joints 6 to 13. Head round, dull black; width 1.4 mm. Body segments 7-annulate, the whole body soft dark gray, the ground color uniform. A

series of short thick papillæ, one on each annulet in subdorsal and lateral even regular rows, and other smaller ones scattered subventrally. First row (subdorsal), which is the shorter, has the papilla on annulet 1 orange, 2–4 black, 5–6 orange, 7th black; second row (lateral) which is larger, has 1st to 4th orange, 5th to seventh black; two behind the spiracle and two subventrally posteriorly pale orange; two groups of six to eight very small ones on the upper and lower subventral folds whitish. Sides with a number of small black spots. On thorax there are less of the papillæ, but the alternation in color is similar. Anal plate not differentiated.

Ultimate stage.—Smooth, very shiny, entirely dark slaty blue black, papillæ indicated by very small concolorous points. Thoracic feet pale. Enters the earth at once to form a moderately firm hibernating cell.

Sent me by Mrs. Slosson from Franconia, N. H., feeding on the elder.

Mogerus caryicolus, sp. nov.

Lanceolate cell petiolate, under wings without middle cells, but a distinct marginal vein in the male, none in the female; eyes rather distant from base of mandibles. Shining black, abdomen largely whitish.

Male.—Head black, clypeus emarginate and with the palpi white. Thorax black, posterior edge of prothorax, tegulæ, cenchri and all the sutures on the sides and below white; coxæ lined with black and white; legs luteous brown, base of tibiæ slightly marked with black, tarsi dusky. Basal plates of abdomen and extreme base of first segment black, the rest luteous above, sordid white on the sides, the tips of the segments faintly marked with subapical black lines; spiracles showing as black dots. Venter of abdomen darker, each segment broadly banded with black at the base, extending part way up the sides. Veins dark brown, stigma and costa pale luteous, shaded with brown at the margins. Wings clear.

Female.—Black above, clypeus white with brown tip, palpi pale. Thorax black, the middle and side lobes of mesothorax brown with a black central streak in each; posterior half of prothorax and tegulæ white; upper half of pleura brown; coxæ and trochanters marked with black and white. Abdomen black dorsally, sides and venter sordid greenish white, the posterior edges of all the segments with a fine white line; ovipositor sheaths blackish; spiracles black dotted. Length 6.5 mm.

There is some variation in color. Another female has the brown on thorax largely replaced by black, but the sutures on the sides distinctly marked in white as in the male. The abdomen is narrowly black banded below and the segments above are black only on the anterior portion. Costa and stigma pale.

I have placed this species in *Mogerus* on the characters of the male. The female is a *Blennocampa*.

Larva.—Head 1 mm., shining greenish white, eye in a black spot. Body green, faintly 5-annulate, with short Y-spines, all whitish, uniform.

Feet on joints 6–13. Thoracic feet colorless; dorsal vessel dark green, no marks. The spines are arranged three on second annulet, the upper one forked, the two lower simple and short; one small point low down on third annulet; three on fourth annulet, the two upper forked; two on each division of subventral fold, all simple, short.

Last stage.—No change. Head 1.3 mm. The head and thoracic feet seem a little greener than before.

Ultimate stage.—Smooth, waxy, scarcely shining, all pale whitish green, dorsal vessel dark. Segments indistinctly 3-annulate. Head concolorous with body, eye black; width 1.3 mm. Length 11 mm. The Y-spines are entirely absent.

Found on young hickory leaves at Fort Lee, N. J., during the last of May. Single brooded. This is doubtless the larva briefly described in Dr. Packard's 5th Report U. S. Entomological Commission, page 317, as "Selandria sp."

Harpiphorus maculatus *Norton.*

A specimen with three submarginal cells on one side and four on the other was bred from a larva on *Potentilla Canadensis* at Fort Lee, N. J. Head with a tiny brown spot behind the eye and dot at back of occiput on vertex. In ultimate stage head whitish, with a leaden patch on vertex. (See Can. Ent., XXVIII, 236.) The larva was intermediate between *H. maculatus* and *Monostegia ignota* in having but a trace of black spots on the head, and the imago was also intermediate in the number of submarginal cells.

Variety **coryli,** var. nov.

This larva is single brooded, disappearing before the middle of June. Found not uncommonly on the hazel at Plattsburg, N. Y., and VanCortlandt Park, New York City, in some cases rather destructive to the plants. I suppose this larva to represent a distinct species and referred to the larva as "5F" in Can. Ent., XXVII, 339. It differs in what seem good specific characters from the larva of *H. maculatus*, yet I do not find any differential points between the flies.

Solitary, usually out straight, sometimes curled, sitting on the under side of the leaf. Head faintly testaceous, a diffuse leaden black patch on the vertex behind; eye in a black spot; width 1.2 mm. The black spot reaches well down the side of the head, but the whole face is pale; a trace of white bloom. Thorax a little enlarged, abdomen scarcely tapering, slightly smaller posteriorly. Dorsum gray to spiracles, uniform or centrally dorsally on abdomen nearly white; sub-

ventral region white; a gentle white bloom; feet colorless. Segments 6-annulate. Joint 2 and the anal flap white. No points on the body and no spots.

Ultimate stage.—Head pale, pale silvery gray over the vertex. Body neatly 6-annulate, shining, dorsum pale greenish, silver gray ending above the tracheal line, brownish on joints 12–13; subventral region and legs pale, waxy greenish. Folds shaded with tarry brown. Spiracles dark.

Pontania robusta *Marlatt.*

No gall, but a portion of the leaf simply folded over. The egg is deposited under the lower epidermis near the edge, not far from the petiole. The larva eats little patches of the parenchyma on the under side scattering three-fourths of the way to the apex, apparently while the leaf is young; these patches are slightly swollen, discolored, pale, and as a result the outer fourth of the leaf folds back, neatly touching the surface, forming a hollow in which the larva lives. Finally the larva eats the whole leaf, emerging from its house and eating the apex of the leaf to return to the house again after feeding. The leaf is not rolled at all, simply folded. Fresh eggs were found May 9th. At that time the young leaf was neatly folded back though not fully grown. On expanding the folded part it was seen to be slightly larger than normal, forming a lobe on the leaf. The egg was situated under the lower epidermis, elliptical, white, .4 x .8 mm.

Stage I.—Head .35 mm. wide; all whitish translucent, the food showing by transparency. Head shining, body less so, the segments indistinctly 3-annulate; setæ fine, white, apparently a row on each annulet. Anal prongs colorless. Thoracic feet spreading. Length 1.5 mm.

Stage II.—Head .5 mm., pale brown, eye black, mouth brown. Body slender, colorless, translucent; segments irregularly 3-annulate, the first annulet flat, not bulging. Setæ whitish, very obscure. Anal segment somewhat swollen, prongs short. Feet on joints 6–11, 13.

Stage III.—Width of head .7 mm. As in the last stage. The apex of the leaf is not eaten, the larva still feeding on the parenchyma in a patch around the anterior edge of its house.

Stage IV.—Head 1 mm. The same. One was observed to emerge at the posterior end of the house near the petiole.

Stage V.—Head very pale brown, dotted, shining, eye narrowly black, jaws large, black, width 1.3 mm. Body shining, translucent,

slightly yellowish tinged with green, principally from the food. Segments 4-annulate, the fourth small, three rows of fine but rather long, colorless setæ on the first three annulets. Thoracic feet rather large, colorless; abdominal small, on joints 6–11, 13, colorless; short, blunt anal prongs, also colorless. No marks and the head is pale brown. The larva eats the whole leaf when it emerges, sitting on the edge, the body curled down a little on one side of the leaf. The larvæ will rasp with their prongs when in the houses if disturbed. At the end of the stage the larvæ enter the ground. Body all pale emerald green, the head brown. Anal prongs rudimentary, brownish, situated on the edge of the anal flap.

Found on the small leaved poplar (*Populus tremuloides*) at Fort Lee, N. J. I have also seen the characteristic houses on the poplar near New York City and at Jefferson, N. H. There is only one brood a year, the larvæ disappearing at the end of May or a little later. The houses remain on the tree much longer. Cocoons formed on the ground. The fly corresponds with Mr. Marlatt's description of the female; the male is not like his description.

Pontania pallicornis *Norton.*

With the habits of *P. robusta* but living on the willow. The smooth leaves are closely folded over, the house long on the narrow leaf, 25 to 40 mm., about one-fourth of the leaf turned over, so that the outer edge just reaches the midrib. The folded part at the angle where it is bent is slightly swollen and yellowish, caused by little scattered patches eaten from the under side.

Egg slits under the lower epidermis half way between the midrib and margin.

Stage I.—Head brownish, not black, width 2 mm. Body as in the next stage, small, colorless, whitish. The larva was seen sitting by the egg slit, no food in the alimentary canal and no marks of eating, yet a good folded house, the leaf swollen between the veins. This was a very young leaf.

Stage II.—Head shining blackish brown, nearly black; eye black; width, .3 mm. Body colorless, the food green by transparency.

Stage III.—Head brownish black, paler than before; width .4 mm. Body the same, but the anal end appears black from the contained frass, intensified by a black subdorsal patch which is now present. Prongs short, blunt, black.

Stage IV.—Head pale, dotted with brown over the vertex, a dark

brown trilobate patch on the clypeus, eye black; width .6 mm. Segments indistinctly annulate, rather coarsely two-ridged, showing on the subventral outline; on thorax only simply ridged; tubercles concolorous, setæ fine and pale. Subdorsal anal black patches preceded by a narrow transverse band; anal point black; body greenish.

Stage V.—Head pale brown, darker on the clypeus, eye black; width 1.2 mm. Thoracic feet rather large, colorless, abdominal ones moderate on joints 6–11, 13. Body transparent, green from food and slightly so from blood. Anal flap distinct; rounded, marked with a deep black subdorsal patch on each side. Points rudimentary, dark; tracheæ evident. The larva comes out the apex of the house and eats the whole leaf. Single brooded; the larvæ can be found till the middle of June. (Cocoons formed on the ground.) On the willow at Van Cortlandt Park, N. Y.

Pontania gracilis *Marlatt.*

Galls on the willow at Van Cortlandt Park, N. Y. City and also sent me by Dr. Lintner in numbers from Gouveneur, N. Y., on *Salix petiolata.*

Gall as described by Marlatt (U. S. Dept. Agr. Div. Ent., Tech. Ser. 3, p. 39), but not quite so large. Nearly spherical or a little elongated in the direction of the leaf, nearly evenly divided by the leaf, projecting half its width beyond the edge; single or rarely two on a leaf, situated near the petiole to one side of the midrib. Smooth, green, a few corky dots, very little red blush if any. Size 7 to 10 mm. in diameter. The shell is thin, containing a large hollow.

Stage III.—Head .5 mm., lower half white, vertex above black, eye smoky blackish, jaws brown. Body opaquish white, rather densely finely pilose; thoracic feet quite large, abdominal ones on joint 6 to 11 and 13, small. Anal end obliquely sloping, dusky shaded dorsally on joint 13. No prongs. The larva can move the body violently up and down.

Stage IV.—Head paler, dotted above; width .7 mm. Anal end round pointed from dorsal view with a few tiny dark specks. Body all opaquish white.

Stage V.—Head pale brown, sometimes with a blackish shade in clypeus and up from eye, eye black; width .85 to 1 mm. Body whitish colorless, segments 3-annulate with slightly watery shiny tubercles on each, not distinctly pilose, the setæ fine. A single, small, pointed, blackish minute tip to anal plate. The anal end is round pointed with a few dusky dots above.

When the galls are withered the larvæ emerge, colored uniformly whitish ash gray, and bore in soft wood to form their rather frail cocoons. There is but one brood in the year.

Pontania hyalina *Norton.*

Gall.—Mr. Marlatt gives a figure and description of the mature gall (Tech. ser. 3, U. S. Dept. Agr., Pl. Fig. 2, p. 37) in a place where the galls were numerous. As the eggs are laid only in the very young leaves and the species is polygoneutic, this necessarily happens in the case of the later broods, where only the few growing shoots are available for oviposition. Earlier in the season the galls are more scattered, usually but one on a leaf, generally remote from the petiole, but sometimes near or adjoining it. Situated between the midrib and the margin, rarely reaching the edge, never exceeding it. When the young leaf is just unrolled and still reddish, the egg is deposited by an elliptical cut below the epidermis on the under side, an inconspicuous puncture. As the leaf grows, the egg area enlarges by natural growth of the leaf, becoming also slightly thickened and surrounded by a bright crimson ring. This red ring later thickens faster than the central portion, producing the irregular shape of the mature gall. This is elliptical with irregular surface, especially below, evenly divided by the leaf, usually green or pinkish below, reddish or even brown and withered above, often black spotted; 8x5x6 mm. Some are very irregular below, grooved on one or both sides where crossed by the veinlets, thick, succulent and watery rather than fleshy, cavity small, elliptical, green inside. At maturity they are hollowed to a shell. The full grown larva eats a hole in the gall and escapes, leaving the empty gall on the tree where it may become the hiding place for other insects. A larva of Ichthyura was found in one. The galls are found on the trees at all stages at once, there being no regularity in the succession of broods. There appear to be five larval stages.

Egg.—Irregularly elliptical, smaller at one end, shining translucent white; .6 x .2 mm. Found in a gall which had attained the size of 4.5 x 2 mm. and consisted of an annular swelling with a central hole extending through the leaf. The egg was at one one side of the hole.

Stage II.—Head round, shining, dusky blackish; width .35 mm. Body uniform bright emerald green, segments 3-annulate, minutely setiferous; anal end slightly tapering, rounded. Thoracic feet large, abdominal ones very small, rudimentary, present on joints 6 to 11; all emerald green like the body.

Stage V.—Head leaden blackish, sutures of clypeus broadly pale. eye black; width .95 mm. Body yellowish green, darker from the shade of the alimentary canal, ill-defined wrinkly 3-annulate, minutely setiferous, no distinct tubercles. Anal end bluntly rounded, brown dotted above. Feet moderate, on joints 6 to 11; tracheal line evident.

At maturity the larva eats a hole in the gall, through which it pushes out the frass for some time before it is ready to leave the gall. Sometimes more than one hole is eaten or even an adjoining part of the leaf.

Cocoon.—Oval, brown, dense and opaque, sometimes formed between leaves on the tree or in a deserted gall.

Found on a large smooth-leaved willow tree at Bellport, Long Island.

Strongylogaster abnormis *Provancher.*

Larvæ found on knot weed (*Polygonum lapathifolium*) in New York City differed from those which I have previously recorded on *Rumex* (Trans. Am. Ent. Soc. XXII, 311), as follows: Head whitish with a light gray patch before the apex of each lobe; a brown patch in clypeus; a very slight bloom. Subventral folds slightly angulated and with the white points suggesting somewhat the appearance of *S. pinguis*, especially as the larvæ when occasionally sitting on the upper surface of the leaf may be somewhat sinuate. Anal segment green, concolorous with the rest.

Strongylogaster pinguis *Norton.*

Egg.—Under the upper epidermis in an irregularly elliptical area 1.7 x 1.4 mm., transparent, overlaid by the reticulations of the epidermal cells. Before hatching the larva swells up somewhat and a ring of air forms around it, appearing like a white margin.

The newly hatched larva has a width of head of about .3 mm., confirming my former observations, which I had doubted (Trans. Am. Ent. Soc., XXII, 308) and showing that there are probably seven stages instead of six. My descriptions, then, refer to stages I, II, IV–VII.

Found on black oak at Bellport, Long Island.

Acordulecera dorsalis *Say.*

The larvæ recorded in Can. Ent. XXVII, 340 as "6U" on hickory, proved to be not different from this species when raised to maturity. A number were found at Fort Lee, N. J., on pig nut hickory. I have also seen others in which the head was partly black and partly pale. The food plant was not the cause of the difference in color of the heads, as I have seen the black form also on the oak.

Lophyrus fabricii *Leach.*

Gregarius on pitch pine (*Pinus rigida*) at Bellport, Long Island, N. Y.

Stage before last.—Head blackish brown, shiny; width 1.5 mm. Body greenish white, a little shining, immaculate except for a faint, double, dusky suranal cloud; segments 6-annulate with minute points on the first, second and fourth. Thoracic feet black; abdominal ones present on joints 6 to 13.

Last stage.—Head round, higher than wide, smooth, shining brown-black; eye blacker; width 2 mm. Body slightly greenish, white, opaque. A broad, regular, sub-dorsal gray shade line on joints 2–13, rarely a narrow fainter dorsal one. A row of square black spots above the stigmatal line resting on the tracheæ, broken and partially disconnected by the annulets, one spot on a segment, covering annulets 2 and 4 on joints 3–12; a large, geminate, sooty black suranal patch. Subventral region white without marks. Thoracic feet black, except at the joints; abdominal on joints 6–13. Rarely the subdorsal shade is faint. The lateral spots vary somewhat, those on the thorax the smallest. Segments 6-annulate, 1st, 2d and 4th with a transverse row of minute black points.

When disturbed the whole brood will elevate the thoracic parts simultaneously.

Ultimate stage.—Head sordid whitish, shaded with black on the vertex, eye black. Body dull grayish, subventer waxy yellowish, a double dorsal, a broad lateral inky black, smoky band, cut by the incisures. Thoracic feet faintly blackish, banded. Anal flap broadly inky.

Cocoon.—Elliptical, dense but thin, light brown, single.

Eleven females bred from a single brood of larvæ, vary in the number of joints of antennæ. Seven have 16 joints, three 17 and one is intermediate, being very indistinctly 17-jointed. The specimens correspond with the description of *L. pini-rigidæ* Norton, which I consider a synonym of *fabricii.*

Eriocampa juglandis *Fitch.*

Head large, full at the vertex, nearly colorless, shining, a little yellowish, covered with a thick white bloom; eye black, mouth brown. Body appears dark, greenish or blackish gray, but when denuded of wool it is colorless, though darkly shaded from the contents of the alimentary canal; coarsely and deeply 6-annulate. The subventral

fold has some mealy bloom; dorsum covered with long tufts of white down which is secreted slowly after each molt, in long, flattened masses, two dorsal, two subdorsal, three lateral, the posterior one lower; subdorsal tufts longer than the unpaired dorsal ones. The wool may become 5 mm. long and curls a little. Three stages observed with widths of head 1.1, 1.5 and 2.1 mm.

Ultimate Stage.—Head 2.1 mm. Perfectly smooth, uniform opaque yellowish white, head shining and a shade darker, eye black. Segments indistinctly transversely wrinkled. Body robust, thick, as high as wide; thorax very slightly enlarged.

Food-Plant.—Butternut. Found at Greenwood Lake, N. J.

Dr. Packard has confounded this species with *Monophadnus caryæ* Norton (5th Rept. U. S. Ent. Comm., 339). Fitch's butternut larvæ, on being bred, prove to belong to *Eriocampa*, and moreover they differ from the hickory larvæ of Norton in being blackish, while the latter are described as greenish beneath the wool.

NOTES ON VARIOUS SPECIES OF COLEOPTERA.

PLATE X.

By F. W. WEBSTER.

It has always appeared to me as a good plan to record the little, detached observations that are made by almost every observing entomologist. Taken individually, these are very often almost devoid of scientific value, but we all of us know how much light some point, of itself unimportant, will throw upon the problem of a life history, when we attempt to work this out, or construct it from the known facts at our disposal. It is as if a huge piece of chinaware were to be dashed into an infinite number of fragments, and these scattered broadcast over the land, and the attempt then made to bring these fragments together, and from them construct the piece anew. It would probably occur that many pieces would have to await the discovery of one, and again, a piece would fit fairly well into the wrong place, and the error could only be detected by the right fragment finally turning up and indicating its proper place.

Some of these notes have been, in the main, recorded elsewhere, but without illustration; and it seems to me to be a matter of mutual benefit to have, somewhere, as accurate illustrations of as many of our species as possible.